



THE STEM

Science
Technology
Engineering
Mathematics

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A publication of the Aerospace Education Section of the Michigan Wing, Civil Air Patrol

AEROSPACE EDUCATION NEWS

2018 NATIONAL AE OFFICER SCHOOL

Another great National AEO/AEM School just recently took place at the Naval Air Station in Pensacola, Florida. The class was made up of 38 AEOs and 22 AEMs representing 19 wings. One desired outcome of this school was all the interaction between AEOs and AEMs with a lot of knowledge and ideas exchanged.

On Monday AEOs learned about the new regulation for AE (CAPR 50-1, 1 May 2018)), a new AEX book, "Women in Aviation", and soon to be released pamphlets (AEO Handbook and Specialty Track). These new releases were, in part, due to the renumbering of CAP publications. Tuesday the AEMs arrived and the presentations involving both AEOs and AEMs started. Two of the AEMs did presentations on the STEM Kit *Sphere* and the use of shape visualization to teach geometry and mathematics.

Wednesday morning the group went to watch the Blue Angels' practice session and were treated to VIP reserved sitting. It was hot and humid but no one seemed to mind. On Friday morning the class had a chance to fly the rockets they had built in the classroom as well as watch a high-performance rocket launch. This activity took place at an abandoned military airfield about half an hour from the base.

All the STEM kits were displayed and participants had a chance to check them out and get tips on how to use them from the National staff and other students.

Throughout the week there were many door prizes given away and everyone went home with a lot more baggage than they had on arrival.

Everyone agreed this was one of the finest National AE School in recent years. Hope to see you there in 2019!

2018 GREAT LAKES REGION AEO/AEM SCHOOL

The Great Lakes Region will hold its AEO/AEM School on Tuesday-Friday, August 7-10. The event will be held at the National Museum of the U.S. Air Force in Dayton, OH. The school provides training for AE personnel with many hands-on activities, field trips, etc. If that wasn't enough, attendees will have the opportunity to visit one of the greatest aviation museums. We recommend arriving on Monday or staying until Saturday to have sufficient time to tour the many exhibits.

Details about course fee and accommodations have been sent to AEOs and AEMs. Course schedule should be completed and sent out very soon.

AIR FORCE ASSOCIATION AE GRANTS

Reminder, the deadline for CAP units to apply for \$250.00 grants is December 31, 2018. Develop a project and apply on line...don't put it off!

FEATURED ARTICLE

New 2018 research conducted on behalf of Junior Achievement and EY illustrates how in just one year after first being surveyed, high school age teens' career ambitions have shifted further away from careers in STEM and the arts and how more 13-17 year-old students are expecting to take out loans to help pay for college.

- In a significant drop, 24% of boys want a STEM career, down from 36% in 2017; girls' interest remains unchanged at 11%, year-over-year.
- Among girls and boys, desires for careers in the arts dropped from 18% to 13%.
- The percentage of teens expecting to take out a student loan increased from 33% to 45%.

Career choices that have risen in popularity include the medical and dental fields, as well as public service, illustrating that what kids find most appealing about their dream job is that they are "good at it" and can help people.

- Careers in medical and dental fields increased from 15% to 19%, with girls far more likely to choose this path.
- Interest in careers in public service increased from 7% to 10% overall.
- Starting one's own business (8%) and careers in business (7%) remained the same.

According to kids, their parents still hold the top spot in terms of who or what influences their choice of dream job. Parents' influence, in fact, increased from 19% to 28% since last year. Societal influences such as social media declined from 15% to 8%. Other sources of inspiration include teachers, courses, volunteering and extra-curricular activities.

"Teens today report they are leaning toward jobs that highlight their capabilities, as well as careers that offer altruistic outcomes," said Jack E. Kosakowski, president and chief executive officer of Junior Achievement USA. "As parents, educators, mentors and counselors, we need to continue to give students the skills to become more proficient in the areas in which they need to advance and grow, as well as show them how all types of careers provide opportunities to benefit society. JA volunteers, who come from all fields, help students make these types of connections about what they are learning in school and what they need and want to succeed at work and life."

The survey data implies that teens today are viewing the economy as improving. One year ago when this same Junior Achievement-EY survey was conducted, the percentage of teens that were changing career plans based on the economy was 52%. Today, that number has decreased to just 40%. Fewer teens also plan to get a job and go to school at the same time – 22% this year vs. 30% in 2017. However, some data contradicts teens' awareness of economic conditions.

- The number of teens who have taken a financial readiness class decreased from 33% to 28%.
- 81% of teens would take a work/financial readiness class if it was offered to them.
- The percentage of teens that have a bank account decreased to 52% from 59%.
- 43% of teens expect their parents to pay for college, up from 32% in 2017.

"With teens beginning to join the workforce and looking ahead to future careers, the timing is right to work with them to build and strengthen financial literacy, entrepreneurship and work readiness skills," said Gary Kozlowski, Partner, Ernst & Young LLP, who leads a network of EY leaders serving on more than 40 local JA boards across the US, Canada and the Caribbean. "I was surprised to see a reduced interest in STEM careers, which are taking on larger and more important roles in the transformative age in which we are living. Together, EY and JA can team to help strengthen these critical skills for the workforce of tomorrow."

Other Data Points

- 88% of 13-17 year-olds know what kind of job they want after graduation.
- The two skills kids would like to learn most to prepare for their dream jobs include technology and relationship building.

STEM KIT HIGHLIGHTS

This is a new section to the newsletter. Every issue we will highlight one of the many STEM kits available from CAP.

MODEL AND REMOTE CONTROL AIRCRAFT

This is one of the original five STEM kits but it has gone some modifications. The kit now includes:

- **Sky Streak and Cub balsa airplanes.** These are ideal for beginner builders and serves as introduction to more sophisticated models as well as remote control airplanes.
- **Real Flight Simulator computer program and hand-held controller.** A great tool to teach how to fly remote control airplanes.
- **Wings Aircraft and Aerolab DVDs.** Lots of ideas for career planning and experiments.
- **Mini Apprentice R/C model airplane and controller.** Once all the above lessons and activities are completed the cadets/students will be ready to assembly this model and fly it using the included controller. This model aircraft replaced the Calypso R/C glider which is no longer in production.

Everything a young potential enthusiast will need to determine if a career in general aviation or either manned or unmanned aerial vehicles/systems will be provided. This kit is designed to promote a beginning interest in aviation and/or remotely piloted aircraft vocations (careers) and avocations (hobbies). This program complements the new CAP AEX Model Aircraft and Remote Controlled (MARC) modules developed by a CAP volunteer which will be included in the kit.

This kit is intended to take advantage of the added bonus of the opportunity for youth to receive a **FREE** membership in the Academy of Model Aeronautics (AMA) and work with area AMA clubs for mentorship in learning to fly real remote-controlled airplanes in TAG (Take-off and Grow) programs.



CADETS WITH BALSA WOOD PLANES

MINI APPRENTICE R/C AIRPLANE



WE NEED YOUR ARTICLES AND PHOTOS

Please share your AE experiences with others in the wing by sending us your articles and photographs. Write, e-mail or call Lt Col Frank Roldán at:

Home: 15420 Groesbeck Street, Grand Haven, MI 49417

E-mail: roldanfrank@gmail.com

Home Tel: 616-607-9205

2018 YEAGER AWARD RECIPIENTS

So far this calendar year (Jan 1 to Jul 1), the following seniors have received the Yeager award:

2d Lt Litchfield Clement	MI-100	2d Lt Jennifer Curtiss	MI-257
2d Lt Kirk Curtiss	MI-257	2d Lt Fredrick Czaja	MI-063
SM Deborah Dawson	MI-094	SM Bret DeAugustine	MI-094
1 st Lt Brian Gehrke	MI-117	1 st Lt Chelsea Graham	MI-059
TSgt Andres Hansen	MI-176	2d Lt Michael Hammac	MI-165
2n Lt Aaron Hauter	MI-135	Capt Paul Hodge Jr.	MI-001
SM Mark Hoornsta	MI-192	SM Cameron Jacobs	MI-015
2d Lt Beverly Kindle-Walker	MI-100	Capt Sarah Kleppe	MI-009
SM Richard Louys Jr	MI-201	SM Theodore Martin	MI-075
2d Lt Leonard McMinn	MI-063	1 st Lt Laura Matthews	MI-277
2d Lt Jeffrey Pedersen	MI-238	2d Lt William Rowe	MI-190
2d Lt Lennie Stone	MI-100	SM Jeremy Whitefoot	MI-131

Congratulations to you all and many thanks for your support of the Aerospace Education Program. Hope you are an inspiration to members who have not yet completed this very special training.

PUZZLE CORNER

The last issue of *The Stem* (March 2018) included the following puzzle:

**A man gave one son 10 cents and another son was given 15 cents.
What time was it?**

SOLUTION

Answer: 1:45.

**The man gave away a total of 25 cents.
He divided it between two people.
Therefore, he gave a quarter to two!**

NEW PUZZLE

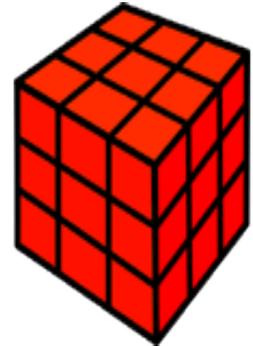
Recently Michael had a party and because it was his birthday he wanted a mathematical cake.

He ordered a cake in the shape of a cube, and had it completely iced (but of course he didn't have the underneath iced because that just isn't very sensible).

Michael cut every side of the cake into three equal pieces, giving him 27 slices of cake.

Michael wanted to eat all of the pieces of cake that had exactly 2 sides with icing.

So, how many pieces did that leave for his guests?



ANSWER WILL APPEAR IN THE SEPTEMBER 2018 ISSUE OF THE STEM

"You haven't seen a tree until you've seen its shadow from the sky"

